II. BACKGROUND AND TECHNICAL DATA SUMMARIES

LAND CAPABILITY ANALYSIS

The first major data gathering task undertaken as a part of this Rural Service Area planning project was a "land capability analysis" in 1996-97. Data was gathered comprehensively for the entire rural service area, with an eye toward later policy determinations such as future preservation or development. All lands were analyzed in terms of a complex interrelationship of physical and social factors.

The first step in this process was the mapping of the basic physical features and conditions of the rural land in a series of consistent maps for comparative references. The information that was gathered and mapped included topography, environmentally sensitive and geologic hazard areas, roads, land use, tree stands and other major vegetation, soil associations, historic sites and districts, scenic areas, sewerable areas, ownership patterns and existing zoning. The background series of 1" = 600' scale maps and overlays are on file in the Division of Planning.

The second step was to again map the rural area using a complex set of values recommended by the consulting firm Siemon, Larsen and Marsh, and refined by staff. These values were derived from the Comprehensive Plan, from special area plans and studies, and from interviews with key public officials, property owners, and interested citizens. Input was also obtained from the LFUCG Administration, the Urban County Council, the Planning Commission, the Greenspace Commission, and the Expansion Area Master Plan Study Committee. The areas on the composite maps were divided into discrete units and a mapping key was produced with 123 different units. This mapping key was used as a means to make routinized decisions as to the character of the land through a decision-tree process. Additional information regarding this key and its application can be found in the Tentative Draft Rural Landscape Management Plan, October 21, 1996, prepared by Siemon, Larsen and Marsh.

The third step in the process involved the translation of these land characteristics and land management units into a geographic information system, more suitable for future analyses. The result of this effort was a General Use Map with a series of additional "layers" of information. The General Use Map appears as Figure 2-1. The legend is as follows:

General Use Categories

Core Equine Agricultural Land (CEAL) — Equine Agricultural with a high improvement to land value ratio.

Prime Agricultural Land (PAL) — Land suitable for agriculture and comprised of at least 50% prime soils or 75% prime and secondary soils.

Agricultural Land (AL) — Agricultural land in the RSA not in any of the other categories.

Rural Developed Land (RDL) — Land that has been improved for rural uses but the primary purpose is not agriculture; including rural residential lot sizes greater than 10 acres.

Non-Rural Developed Land (NRDL) — Land that has been improved for non-rural use including those areas designed for commercial development or rural subdivisions with lot sizes less than 10 acres; includes rural settlements and Rural Activity Centers (except where public land).

Public Land (PL) — Land owned by a public entity or lands accessible to the public that will remain in public use in the foreseeable future.

Historic Landmark/Natural Area (HLN) — Locally designated historic landmarks under Article 13 of the Zoning Ordinance, natural areas recognized by federal, state, or local governments, or areas known as habitat for flora and fauna.

Urban Service Area — This is the adopted area of existing and future urban growth. All land in Fayette County is either in the Urban Service Area or the Rural Service Area.

The additional information was considered like layers over the land areas and General Use Categories just described. This information is also organized to help evaluate the importance for preservation or the potential for development for any parcel of land. The series of additional layers within the Land Capability Mapping System are as follows:

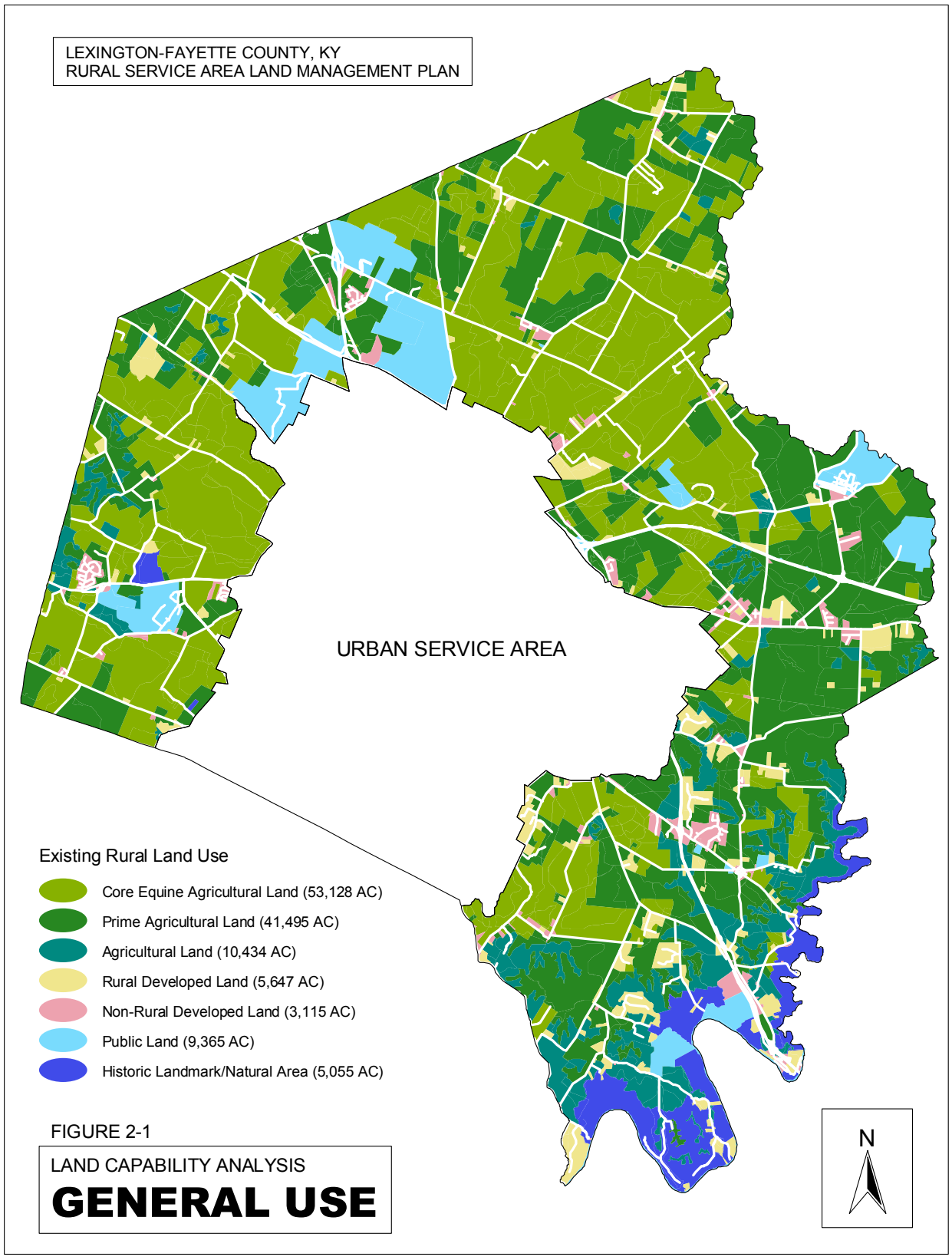


FIGURE 2-1

LAND CAPABILITY ANALYSIS

GENERAL USE

Additional Layers

Environmentally Sensitive Lands (ESL) — Stream corridors, floodplains, wetlands, karst areas, aquifers, steep slopes (including the Kentucky River Palisades), mature woodlands, and natural or man-made water bodies (Note: Because of its extreme importance in planning future land use, the original Land Capability Mapping Key proposed ESL as a General Use Category. Soon thereafter it was revised to make ESL an overlay within the system.) Future use and treatment of Environmentally Sensitive Lands are discussed later in this report as a special plan feature.

Aquifer Protection Area — This is a unique type of environmentally sensitive area, where use and development can directly affect the water quality of a major drinking water source. Because of its size and uniqueness, it was mapped separately from the other environmentally sensitive areas. Future use and treatment of this area is also discussed later in this plan as a Special Plan Element.

Scenic Viewsheds — The vast majority of public roads in the Rural Service Area have significant scenic qualities. Those roads were identified in the *Corridor Enhancement Study* and refined with public discussion during the land capability analysis. Land that normally can be seen from these public rights-of-way have been mapped as "scenic viewsheds." These viewsheds were identified through interpretation of mapped features such as tree stands and hilltops or ridges which restrict the view from the road. They were refined through discussion with residents familiar with the areas.

Historic Sites and Areas — These areas are on the National Register of Historic Places or recognized as historic sites or cemeteries. The areas are further discussed later in this report as a Special Plan Element.

Sewerable Areas — Portions of the Rural Service Area were determined by the Urban County Engineers to be more cost effectively served by sanitary sewers in the future than other portions of the Rural Service Area. After further community discussion and consideration by the Engineering Division, this concept was greatly refined. It is presented as refined later in this chapter of the plan.

Arterial Road Access — Transportation plans identify which urban and rural roads are most significant to the transportation system's operation. Lands that are within approximately 2000 feet of a rural arterial and have direct access to a rural arterial road are identified as Arterial Road Access.

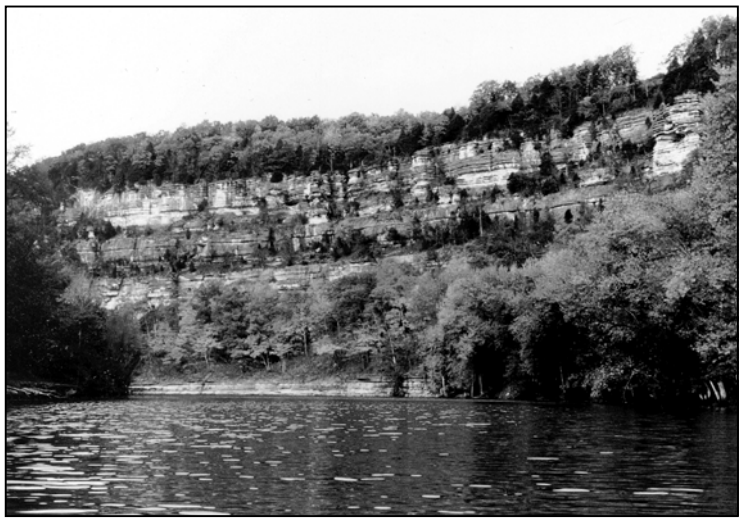
Interchange Access — These are lands that have access to an arterial road and are within one mile of an interstate interchange.

Zoning — Zoning was reviewed as part of the Land Capability Mapping. Lands zoned any category other than Agricultural (AU or AR) were noted. Significant non-residential zoning in the RSA is further discussed in this plan as a Special Plan Element.

The result of this exhaustive analysis is preserved in the files of the Division of Planning. Each of the layers has been shown individually in large and small maps. The best summary depiction of this information is the set of four, 1" = 2000' scale maps showing all the above layers as well as the General Use of all land in the RSA. Pertinent details from this data gathering, interpretation and mapping effort are mapped in appropriate other sections of this plan.

This land capability analysis revealed the physical characteristics and land use interrelationships among various land uses in the RSA. Not surprisingly, the overlay process also revealed a strong correlation and association among prime soils, equine agriculture, and non-equine agriculture. The land capability maps were further analyzed in terms of possible land management strategies. This was done as part of the "Key" process previously noted and thus emphasized consistent management strategies for similar properties. That is, if two pieces of property had essentially the same characteristics, they would then have similar land management strategies. Those general **Land Capability Strategies** are:

1) historic and environmental resource protection;
2) equine preservation;
3) agricultural conservation;
4) general rural preservation;
5) general rural development;
6) urban/rural transition;
7) strategic consideration; and
8) potential urbanization.



These grouping and associations formed the preliminary strategic basis for the land categories suggested in the Tentative Draft Rural Landscape Management Plan (Siemon, Larsen & Marsh, October 21, 1996) and the sample alternative draft plan concepts contained the Rural Service Area Land Management Plan Report #2: A Framework for Plan Development and Adoption (LFUCG Division of Planning, February 1998).

LOTTING PATTERNS

As the land in the Rural Service Area was examined more closely it became apparent that the lotting pattern was not uniform throughout the rural area. In the western and the northern parts of the county, the farms tend to be larger and to have more stable ownership. In this area there are fewer rural subdivisions. This is the area that is often referred to as the "horse-farm crescent," due to the number of substantial horse farms. In the southeastern portion of the county, the terrain is quite different. The slopes are steeper as the land drains toward the Kentucky River and its tributaries. There are many rural subdivisions and historic rural settlements. More 10-acre subdivisions are located in this area than elsewhere in the county. Large farms are not as common as they are in the northern part of the county. Figure 2-2 shows the lotting pattern in the Rural Service Area.

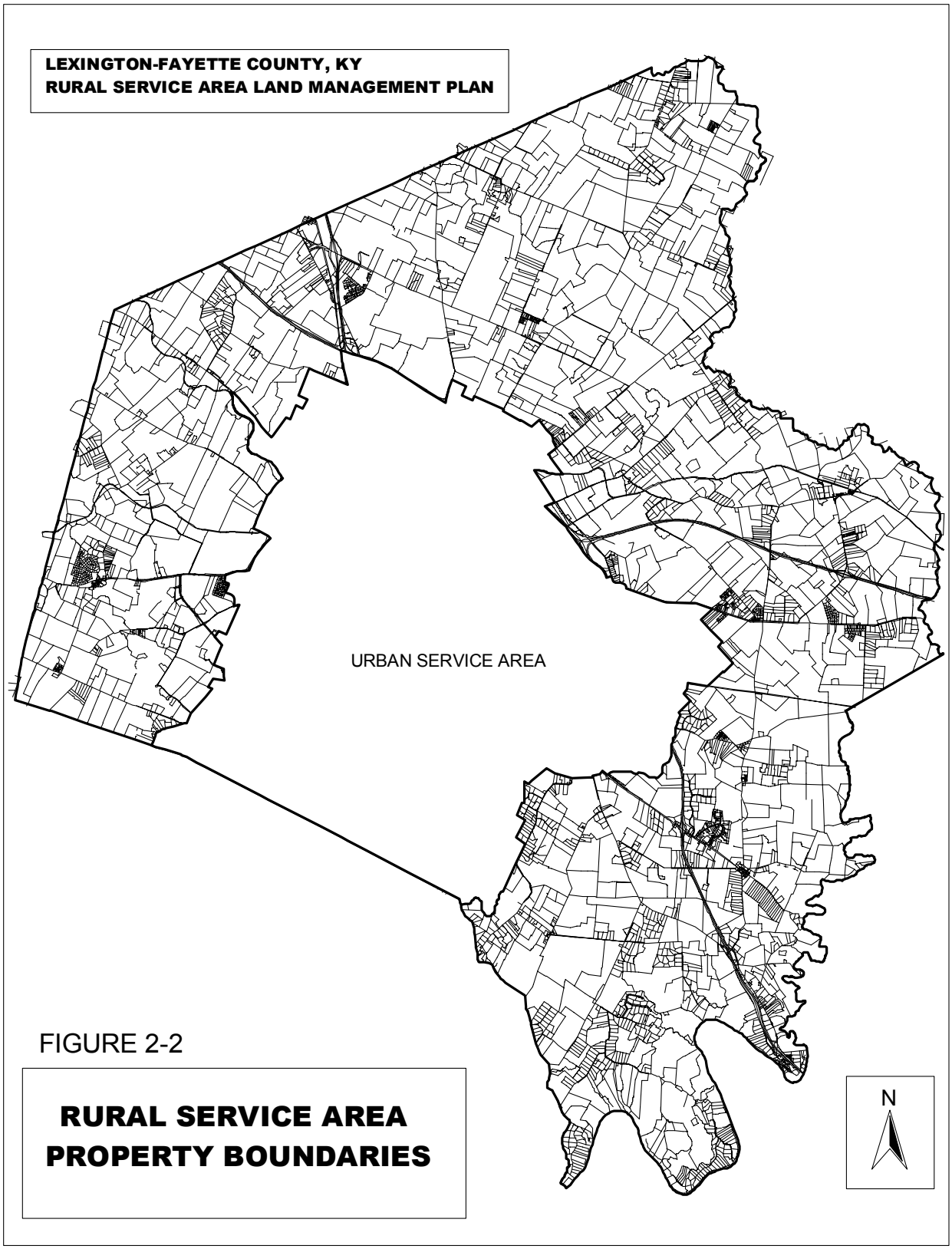


FIGURE 2-2

RURAL SERVICE AREA PROPERTY BOUNDARIES

SEWERABILITY UPDATE

The Land Capability Analysis study was prepared as background data for the Tentative Draft Rural Landscape Management Plan. The Land Capability Analysis identified certain areas that, due to their location, their access to the rural road network and their ability to be served by sanitary sewers, will likely have pressure for development at some time in the future. It is, therefore, important that these areas are examined closely and some reasonable assumptions are made regarding the ability of the LFUCG to provide sewers to these locations. The areas most susceptible to development pressure were embodied in the Transitional Areas and Potential Development Areas in the Tentative Draft Rural Land Management Plan. Not surprisingly, these areas were the subjects of considerable discussion. Questions were raised as to whether or not the information presented at that time truly depicted the relative sewerability of different areas of the Rural Service Area. As a result of these concerns, the Division of Engineering further studied the sewerability of the RSA utilizing the best information and judgement available. David Uckotter, Director, prepared a memo explaining the study and its findings. A copy of this memo was previously presented to the public as Appendix 1 of the Rural Service Area Land Management Report #2: A Framework for Plan Development and Adoption.

The staff has examined the sewerability issue with the Division of Engineering knowing that the sewerable areas that were shown in the Tentative Draft Rural Land Management Plan were based on broad assumptions regarding existing and proposed sanitary sewer facilities. This "broad brush" approach had overstated the areas that are potentially sewerable. With this in mind, there was a second look at the provision of sanitary sewers to portions of the rural area based on several assumptions. These are:

- The ability to finance the construction of trunk lines and treatment plants
- The development of subdivisions with adequate density or value to economically pay for the facilities
- The ability of the government to take-over and operate existing private treatment plants
- The ability of the government to obtain permission from the State to construct new treatment facilities
- The ability to add capacity to existing sewer facilities

It is acknowledged that no in-depth engineering study (comparable to a "201-type" study) was done to provide a detailed analysis of any of the areas. Before any sanitary sewers facilities could be provided outside the existing Urban Service Area such a study would need to be prepared and a modification of the 201 Sanitary Sewer Facilities Plan would be necessary. The categories provide an indication of the areas of our Rural Service Area that may be connected to a sanitary sewer only under certain conditions.

The areas are shown on Figure 2-3 and are described as follows:

Sewerability Category 1: These are areas where the government could provide public sanitary sewers without reconstruction of existing facilities. In these locations the sewage from the potential developable land could flow naturally to existing public sanitary sewer facilities. Excluded from consideration in this category are lands where the effluent would have to be pumped to the sewer or where sewers would have to be constructed "against the grade" of an adjacent stream. The two areas in this category are located at Keene Road at Military Pike (13.84 acres) and east of the intersection of Man o' War and Parkers Mill Road (22.27 acres).

Sewerability Category 2: In these areas new sanitary sewer facilities have already been identified or the areas would not require major reconstruction of existing facilities. The three areas in this category are located at Spurr Road and the Southern Railroad (79.87 acres), Walnut Hill-Chilesburg Road north of Todds Road (123.6 acres), and DeLong Road southeast of Jacobson Reservoir (135.70 acres).

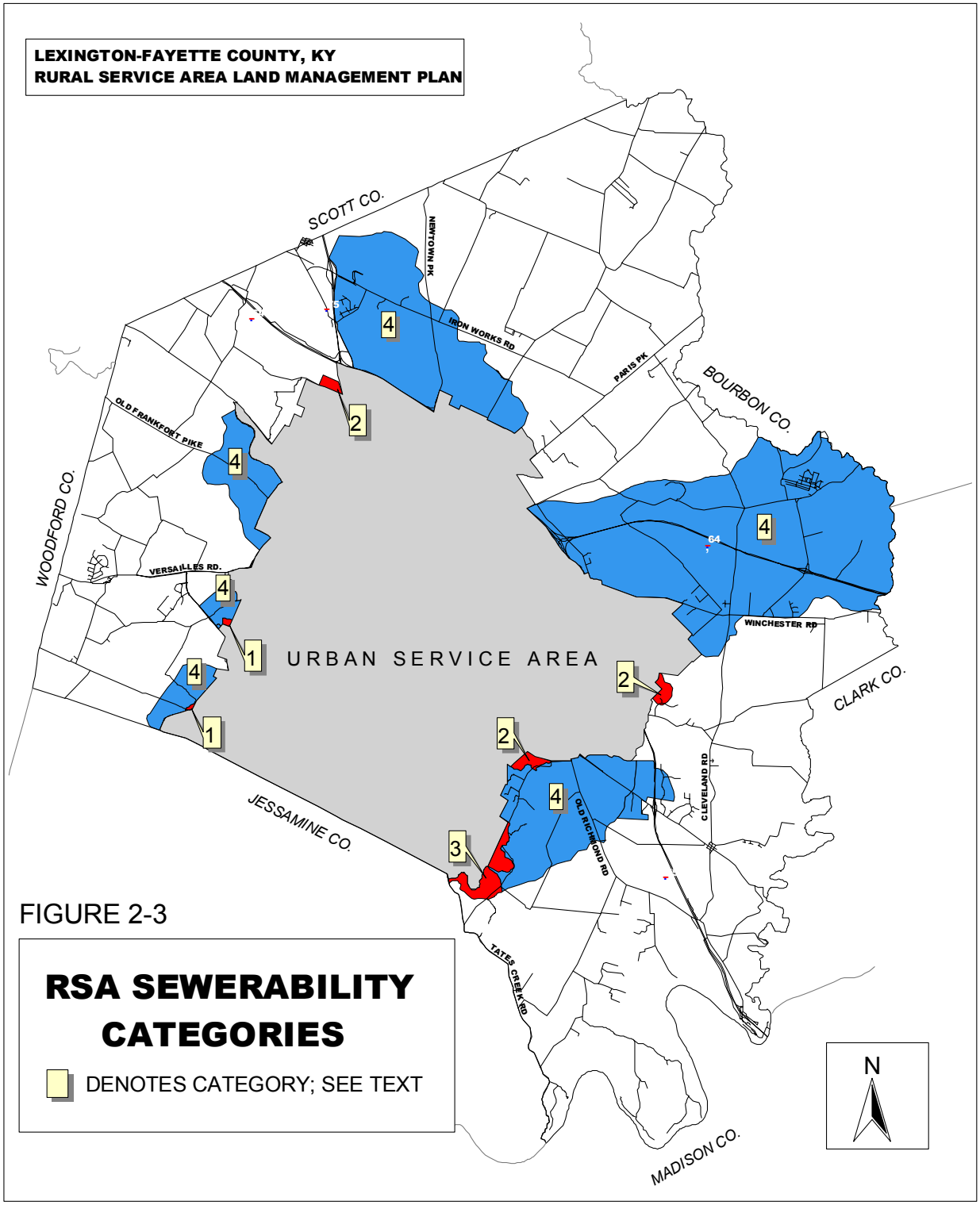
Sewerability Category 3: In this area, sanitary sewers could be provided by the planned trunk sewer. The entire area is not sewerable. The capacity and location of the proposed sewer lines would limit the land area that could actually be served to about 100 acres. The area in this category is located on DeLong Road at Walnut Hill Road adjoining the Urban Service Area boundary (301.88 acres).

The land in Sewerability Categories 1, 2, and 3 totals 677.16 acres which is 0.52% of the Rural Service Area.

Sewerability Category 4: In addition, the Division of Engineering has identified six other areas that could be sewered but only with considerable outlay of funds and the construction of entirely new trunk sanitary sewers and pump stations. In some locations, a new treatment plant or pump station would be needed to replace an existing facility. The locations of these areas and descriptions of the types of improvements required are as follows:

- **Areas downstream of the existing South Elkhorn Pump Station** — Any significant development below the existing pump station would require the construction of a new pump station. The capacity of the existing pump station and force main would need to be re-evaluated to determine whether such a large expansion of the service area would be possible. Construction of a second force main for the additional area would not be feasible.

- **Lands in the vicinity of Man o' War Boulevard and Parkers Mill Road** — Construction of a pump station and force main would be required to serve this area. Because of capacity issues facing the South Elkhorn system, it would probably be necessary to pump this are to Town Branch. Trunk line and pump station improvements would likely be required in the Town Branch system to accommodate the additional development.


LEXINGTON-FAYETTE COUNTY, KY
RURAL SERVICE AREA LAND MANAGEMENT PLAN
SCOTT CO.
NEWTOWN PK
IRON WORKS RD
PARIS PK
BOURBON CO.
OLD FRANKFORT PIKE
WOODFORD CO.
VERSAILLES RD.
WINCHESTER RD
CLARK CO.
URBAN SERVICE AREA
CLEVELAND RD
OLD RICHMOND RD
JESSAMINE CO.
TATES CREEK RD
MADISON CO.
N
FIGURE 2-3
RSA SEWERABILITY CATEGORIES
DENOTES CATEGORY; SEE TEXT

- **Old Frankfort Pike Area west of Viley Road** — This area includes land that drains into Town Branch Creek from the south side of the creek between the end of the existing service area to a point across from the lower end of the Bracktown neighborhood. The Lower Town Branch trunk system that is presently under construction has not been designed to accommodate this amount of expansion. The existing Wolf Run pump station would require major reconstruction or replacement in the future to accommodate this amount of expansion. The subject area would require a new trunk line and force main to provide service to the area, plus an expansion or upgrade of the existing adjacent system to reach the Town Branch Treatment Plant.

- **Kentucky Horse Park/Newtown Pike Area** — This is a very large area dominated by lands owned by the State of Kentucky. Development of this area would be dependent upon a major expansion, or replacement, of the existing treatment plant situated at the Horse Park.

- **I-64/Avon Area** — Sewering of this land would require significant construction of trunk sewers and/or pump stations to provide service. The Avon treatment plant would need to be completely replaced to provide service to any areas outside of the existing service area.

- **Delong Road/Richmond Road Area** — A sanitary sewer system for this area would require gravity lines and pump stations to serve the development. The area near I-75 could be served by phasing out the JFG and Blue Sky Plants and the installation of a pump station to bring the sewage to a trunk line from the Tates Creek Road vicinity to serve the entire area.

SUMMARY

The Land Capability Study process provided the first overall inventory of all factors relevant to understanding and management of the RSA. This effort underlies the policy decisions made as a part of this Rural Service Area Land Management Plan.

Very little of the RSA is sewerable (by either public or private means) without major capital expenditures for plants, major trunk lines, and pump stations or force mains. New package plants in the RSA are technically feasible, but have the potential for problems of siting, scope of service area, and interference with agricultural activities. It has been a long-standing policy of the community not to allow new private package treatment plants and to eliminate such plants whenever possible. This policy has been continued in the recent 201 Study.
OLDMAPS